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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,184	07/24/2001	Nobuhiro Ishikawa	KIS/12595	5695
40854	7590	11/12/2004	EXAMINER	
RANKIN, HILL, PORTER & CLARK LLP				NGUYEN, HAI L
4080 ERIE STREET				ART UNIT
WILLOUGHBY, OH 44094-7836				PAPER NUMBER
				2816

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/912,184	ISHIKAWA ET AL.	
	Examiner	Art Unit	
	Hai L. Nguyen	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 20 May 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-10 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 July 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/20/01 & 5/20/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the words are too close together, no space between them. New substitute abstract with cleared spaced between words is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities: the spacing of the words of the specification is such as to make reading/OCRing difficult. New application papers with cleared spaced between words is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show structural details “a sampling circuit for sampling an amplitude of one of the first and second phase-shifted signals at a timing when the other has a phase angle of a certain value” as described in the specification (page 9, lines 11-13); and “a pulse generator for detecting a zero cross point of said the other of first and second phase-shifted signals to generate a sampling pulse supplied at each zero cross point to the sampling circuit” as described in the specification (page 9, lines 14-16). Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-16 are rejected, under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed limitations that "a sampling circuit for sampling an amplitude of one of the first and second phase-shifted signals at a timing when the other has a phase angle of a certain value", in claim 6; "a pulse generator for detecting a zero cross point of said the other of first and second phase-shifted signals to generate a sampling pulse supplied at each zero cross point to the sampling circuit", in claims 7

and 8, have not been enabled in the specification. The details of such functions are not seen in the description of the preferred embodiment. It is not clear as currently defined, how the sampling circuit can perform the recited function as sampling an amplitude of one of the first and second phase-shifted signals at a timing when the other has a phase angle of a certain value; and how the pulse generator can perform the recited function as detecting a zero cross point of said the other of first and second phase-shifted signals to generate a sampling pulse supplied at each zero cross point to the sampling circuit. Furthermore, claims 1-5 have similar problems.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is indefinite because the limitation “a first and a second all pass filters with 90 ° phase-shifted different frequencies for passing the alternating signal through the first and second all pass filters to generate a first and a second phase-shifted signals with a phase delay difference of 90 ° there between within a frequency range corresponding to the fluctuant range of the period” is misdescriptive. Since, the circuits 11 and 12 (in Fig. 2 of present application) have a same circuit configuration and also receive a same input signal; thus they cannot generate phase-shifted signals with a phase delay difference of 90° between them. Clarification is required.

Claim 1 is similarly indefinite because of the limitation “passing the alternating signal through the first and second all pass filters to generate a first and a second phase-shifted signals

with a phase delay difference of 90 ° therebetween within said frequency range"; note the above discussion with regard to claim 6.

Claims 2-5 and 7-10 are rendered indefinite by the deficiencies of base claims 1 and 6.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 2, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Mortensen et al. (US pat. 4,112,381).

With regard to claims 1, 2, and 6, Mortensen et al. discloses in Fig. 1 a circuit, and a method, for detecting an amplitude of an alternating signal (10), comprising a phase revising circuit including a first and a second all pass filters (by given the broadest reasonable interpretation; elements 80 and 82 are the all pass filters because they has a function of passing signal from input to the output), with 90° phase-shifted different frequencies for passing the alternating signal through the first and second all pass filters to generate a first and a second phase-shifted signals with a phase delay difference of 90° there between within a frequency range corresponding to the fluctuant range of the period (see column 3, lines 1-45); and a sampling circuit (82, 84) for sampling an amplitude of one of the first and second phase-shifted signals at a timing when the other has a phase angle of a certain value (see column 4, line 30 through column 5, line 55).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mortensen et al.

With regard to claims 5 and 10, Mortensen et al. meets all the claimed limitations except for the intended use for an alternating signal, is an output signal from an instrumentation sensor. However, it is noted that all the alternating signal have same characteristic, i.e. a sine wave signal, no matter what source they are coming from. Therefore, it would have been obvious to one of ordinary skill in the art to use the circuit of Mortensen et al. for detecting amplitude of an alternating signal which is an output signal from an instrumentation sensor.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. For example, Fujii et al. (US Pat. 5,498,955) is cited as of interest because it discloses an apparatus for detecting the amplitude and phase of an AC signal circuit.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747 and Right Fax number is 571-273-1747. The examiner can normally be reached on Monday-Thursday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The official fax phone number for the organization where this application or proceeding is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1562.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HLN *HCN*
October 28, 2004



TIMOTHY P. CALLAHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800